

## ABSTRACT

Cigarettes are manufactured using modified automated cigarette making apparatus. Those cigarettes possess smokable rods having paper wrapping materials having additive materials applied thereto as patterns. The additive material can be applied as a coating formulation in an off-line manner to a continuous paper sheet web that is later used for cigarette manufacture. The additive material can be applied as a coating formulation in an on-line manner to continuous paper web moving through an operating cigarette making machine. The coating formulation is applied to the paper web using roll applicator techniques, ink jet printing techniques or electrostatic precipitation techniques. Liquid coating formulation are curable, and are virtually absent of solvent or liquid carrier. Radiation, such as ultraviolet or electron beam radiation, is used to solidify and fix polymerizable liquid components of the coating formulation that have been applied to the paper web. Heating and subsequent cooling of the coating formulation used to fix solid components of the coating formulation that have been applied to the paper web. Registration techniques are used to ensure proper positioning of the additive material on the smokable rods so manufactured, and to ensure proper quality of those cigarettes.